

WHAT IS CLAIMED IS:

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1. A light-emitting apparatus comprising:  
a primary light source including a semiconductor  
light-emitting device with an emission wavelength of from 380  
5 nm to 500 nm; and  
a secondary light source including a fluorescent material  
composed of ZnS:Cu, Au, Al;  
wherein said secondary light source emits light based  
on light given from said primary light source so that light  
10 of said secondary light source and the light of said primary  
light source are mixed together to thereby generate light  
different in luminescent color from the light emitted from said  
primary light source.

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15 2. A light-emitting apparatus according to claim 1,  
wherein said fluorescent material is dispersed into a first  
layer composed of a light-transmissible material,  
a part of the light emitted from said primary light source  
is transmitted through said first layer, and  
20 the other part of the light emitted from said primary  
light source is absorbed by said fluorescent material so that  
said fluorescent material emits light and the light emitted  
from said fluorescent material and the light emitted from said  
primary light source are mixed together to thereby generate  
25 light different in luminescent color from the light emitted



8. A light-emitting apparatus according to claim 2, wherein an amount of said fluorescent material changes continuously or stepwise as location of said fluorescent material in said first layer comes nearer said light-emitting device.

9. A light-emitting apparatus according to claim 5, wherein said first layer and said sealing member are composed of the same material.

10. A light-emitting apparatus according to claim 2, wherein said light-emitting device is of a chip type, and said first layer is formed so as to cover said light-emitting device.

11. A light-emitting apparatus comprising:  
a primary light source including a semiconductor light-emitting device with an emission wavelength of from 380 nm to 500 nm; and

a secondary light source including a fluorescent material composed of at least one member selected from the group consisting of ZnS:Eu, YVO<sub>4</sub>:Ce and Y<sub>2</sub>O<sub>2</sub>S:Ce;

wherein said secondary light source emits light based on light given from said primary light source so that light of said secondary light source and the light of said primary

light source are mixed together to thereby generate light different in luminescent color from the light emitted from said primary light source.

5 12. A light-emitting apparatus according to claim 11, wherein said fluorescent material is dispersed into a first layer composed of a light-transmissible material,

a part of the light emitted from said primary light source is transmitted through said first layer, and

the other part of the light emitted from said primary light source is absorbed by said fluorescent material so that said fluorescent material emits light and the light emitted from said fluorescent material and the light emitted from said primary light source are mixed together to thereby generate  
15 light different in luminescent color from the light emitted from said primary light source.

13. A light-emitting apparatus according to claim 12, wherein said first layer comprises at least one member selected  
20 from the group consisting of epoxy resin, silicone resin, urea resin and glass.

14. A light-emitting apparatus according to claim 12, wherein said light-emitting device is fixed to a cup portion  
25 of a lead frame, and said first layer is formed so that said

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light-emitting device fixed to said cup portion is covered with said first layer.

15. A light-emitting apparatus according to claim 14,  
5 wherein a sealing member is provided so that said light-emitting device, said first layer and a part of said lead frame are covered with said sealing member.

10 16. A light-emitting apparatus according to claim 15, wherein said sealing member is composed of at least one member selected from the group consisting of epoxy resin, silicone resin, urea resin and glass.

15 17. A light-emitting apparatus according to claim 15, wherein said sealing member is shaped like a bullet.

20 18. A light-emitting apparatus according to claim 12, wherein an amount of said fluorescent material changes continuously or stepwise as location of said fluorescent material in said first layer comes nearer said light-emitting device.

25 19. A light-emitting apparatus according to claim 15, wherein said first layer and said sealing member are composed of the same material.

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20. A light-emitting apparatus according to claim 12, wherein said light-emitting device is of a chip type, and said first layer is formed so as to cover said light-emitting device.

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21. A light-emitting apparatus comprising:  
a first light source including a semiconductor light-emitting device for emitting blue light;  
a second light source including a first fluorescent material for absorbing light of said primary light source and emitting green light; and  
a third light source for emitting red light;  
wherein the light of said first light source, light of said second light source and light of said third light source are mixed together to thereby generate white light.

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22. A light-emitting apparatus according to claim 21, wherein said first fluorescent material is composed of at least one member selected from the group consisting of ZnS:Cu, Au, Al; ZnS:Cu, Al; ZnS:Cu; ZnS:Mn; ZnS:Eu; YVO<sub>4</sub>:Eu; YVO<sub>4</sub>:Ce; Y<sub>2</sub>O<sub>2</sub>S:Eu and Y<sub>2</sub>O<sub>2</sub>S:Ce.

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23. A light-emitting apparatus according to claim 21, wherein said third light source includes a second fluorescent material for absorbing the light of said first light source

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and emitting red light.

24. A light-emitting apparatus according to claim 23,  
wherein said second fluorescent material is composed of  $\text{CaS:Eu}$ .

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25. A light-emitting apparatus according to claim 21,  
wherein said third light source includes a semiconductor  
light-emitting device for emitting red light.

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26. A light-emitting apparatus according to claim 21,  
wherein said fluorescent material is dispersed into a first  
layer composed of a light-transmissible material,

a part of the light emitted from said first light source  
is transmitted through said first layer, and

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the other part of the light emitted from said first light  
source is absorbed by said fluorescent material so that said  
fluorescent material emits light and the light emitted from  
said fluorescent material and the light emitted from said first  
light source are mixed together to thereby generate light  
different in luminescent color from the light emitted from said  
first light source.

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27. A light-emitting apparatus according to claim 26,  
wherein said first layer comprises at least one member selected  
from the group consisting of epoxy resin, silicone resin, urea

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resin and glass.

28. A light-emitting apparatus according to claim 26,  
wherein said light-emitting device is fixed to a cup portion  
5 of a lead frame, and said first layer is formed so that said  
light-emitting device fixed to said cup portion is covered with  
said first layer.

29. A light-emitting apparatus according to claim 28,  
10 wherein a sealing member is provided so that said light-emitting  
device, said first layer and a part of said lead frame are covered  
with said sealing member.

30. A light-emitting apparatus according to claim 29,  
15 wherein said sealing member is composed of at least one member  
selected from the group consisting of epoxy resin, silicone  
resin, urea resin and glass.

31. A light-emitting apparatus according to claim 29,  
20 wherein said sealing member is shaped like a bullet.

32. A light-emitting apparatus according to claim 26,  
wherein an amount of said fluorescent material changes  
continuously or stepwise as location of said fluorescent  
25 material in said first layer comes nearer said light-emitting



device.

33. A light-emitting apparatus according to claim 29,  
wherein said first layer and said sealing member are composed  
of the same material.

34. A light-emitting apparatus according to claim 26,  
wherein said light-emitting device is of a chip type, and  
said first layer is formed so as to cover said light-emitting  
device.

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